



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/046,516	10/26/2001	Sven Graupner	10010929-1	3426

7590 09/29/2005

HEWLETT-PACKARD COMPANY
Intellectual Property Administration
P.O. Box 272400
Fort Collins, CO 80527-2400

EXAMINER

AVELLINO, JOSEPH E

ART UNIT PAPER NUMBER

2143

DATE MAILED: 09/29/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/046,516	Applicant(s) GRAUPNER ET AL.	
	Examiner Joseph E. Avellino	Art Unit 2143	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 06 September 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-3, 5-7, 10-15 and 17 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3, 5-7, 10-15 and 17 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>5/1/02</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. Claims 1 are presented for examination; claims 1, 12, and 13 independent.

Terminal Disclaimer

2. The terminal disclaimers filed on August 31, 2005 disclaiming the terminal portion of any patent granted on this application which would extend beyond the expiration date of Application nos. 10/046,519, 10/044,882, and 10/164,554 have been reviewed and is accepted. The terminal disclaimers have been recorded.

Claim Rejections - 35 USC § 103

3. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.
4. Claims 1-3, 5-7, 10-15, and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pace et al. (US 2003/0051236) (hereinafter Pace) in view of Hauser et al. (USPN 5,889,956) (hereinafter Hauser).
5. Referring to claim 1, Pace discloses a computer-implemented method for identifying optimal allocations of computing resources in a data processing arrangement having a plurality of computing machines that host a plurality of application processes, comprising:

establishing a plurality of server models (i.e. target node classes), each server model including one or more server nodes (i.e. those which reflect geographic, logical, business category-based and or any other general class relationships), wherein each server node has an associated a set of capacity attributes (an inherent feature since every server has attributes regarding its capacity, and therefore every class of target nodes has an associated set of capacity attributes) (p. 19, ¶ 306);

designating a layered relationship between the server models wherein for a first server-model layer immediately above a second server-model layer, the second server model layer includes respective models that represent the nodes in the first server-model layer (an inherent feature of a hierarchical relationship is that they contain subclasses) (p. 19, ¶ 306);

establishing a plurality of service models (i.e. system parts classes), each service model including one or more service nodes (i.e. reflect technical requirement, business purpose or any other general class relationships), wherein each service node has an associated a set of demand attributes (an inherent feature since metrics are returned p. 53 ¶ 808, which inherently requires that demands regarding the application must be there) (p. 19, ¶ 307);

designating a layered relationship between the service models wherein for a first service-model layer immediately above a second service-model layer, the second service-model layer includes respective models that represent the nodes in the first service-model layer (an inherent feature of a hierarchical relationship is that they contain subclasses) (p. 19, ¶ 307);

generating an optimized mapping of service nodes in a user-selected service model to server nodes in a user-selected server model as a function of the demand and capacity attributes (the models are inherently user selected since the models must be created somehow based on characteristics stated in Pace, and therefore a network administrator would have to define those classes in some fashion) (p. 53, ¶ 808-811).

Pace does not disclose the service node has a set of capacity attributes and optimizing mapping between the capacity attributes of the two levels. Hauser discloses that when a lower level 22 demands use of a resource, the higher level 16 checks to make sure it is below its "maximum allowed" level, thereby inherently having a capacity attribute (e.g. abstract; col. 3, line 66 to col. 4, line 19). Furthermore Hauser discloses that a lower level resource can demand more from a higher level such that it does not meet its "minimum guaranteed" value (e.g. abstract; col. 4, lines 20-40). When these teachings are applied to both the service-model nodes as well as the server-model nodes, they teach the limitations of the aforementioned claims. It would have been obvious to one of ordinary skill in the art to combine the teaching of Hauser with Pace since Pace discloses that load balancing models are well known in the art, this would motivate one of ordinary skill in the art for other methods of hierarchical resource management, eventually finding Hauser and its use of Maximum allowed values, and minimum guaranteed values (e.g. abstract).

6. Referring to claim 2, Pace discloses monitoring, while the applications are executing (an inherent feature, otherwise metrics would not be received), levels of

demand (i.e. metrics such as transaction per second for computational environments) (p. 53, ¶ 808);

storing levels of demand (an inherent feature, otherwise they would not be able to be utilized for optimization);

generating an alternate optimized mapping of service nodes in a user-selected service model to server nodes in a user-selected server model using the stored levels of demand and the capacity attributes (p. 53, ¶ 811).

7. Referring to claim 3, Pace discloses the invention substantively as described in claim 2. Pace furthermore inherently discloses establishing one or more service-node relationships between selected pairs of the service nodes, and establishing one or more server-node relationships between selected pairs of the server nodes, since any hierarchical relationship would have a reference to its parent and child level. Pace does not specifically disclose that the service-node relationships are demand attributes, the server-node relationships are capacity attributes, and generating an optimized mapping as a function of the service-node relationships and server-node relationships. In analogous art, Hauser discloses a hierarchical resource management system which discloses a service node model relationships (i.e. between the users of the programming department 22 and the engineering department 16) are demand attributes (i.e. a user of the lower level 22 requests resources of the system, which can be considered a demand attribute) (e.g. abstract; Figure 1). Hauser further discloses the hierarchical resource management system can also have capacity attributes for the

Art Unit: 2143

server nodes (i.e. the computers encompassed by the programming department 22 and the engineering department 16 since each level has an associated "Maximum_Allowed" value which determines the capacity of the resource for the department) (e.g. abstract). Hauser furthermore discloses generating an optimized mapping as a function of the service node relationships and server node relationships (if a user has not met his "minimum_guaranteed" value of resource, the system is optimized and extra capacity is taken from another department, 18 for example, and applied to the user, thereby providing an optimization between the service relationships and the server relationships). It would have been obvious to one of ordinary skill in the art to combine the teaching of Hauser with Pace since Pace discloses that load balancing models are well known in the art, this would motivate one of ordinary skill in the art for other methods of hierarchical resource management, eventually finding Hauser and its use of Maximum allowed values, and minimum guaranteed values (e.g. abstract).

8. Referring to claim 5, Hauser in view of Pace disclose the invention substantively as described in claim 3. Pace does not disclose the service node has a set of capacity attributes and optimizing mapping between the capacity attributes of the two levels. Hauser discloses that when a lower level 22 demands use of a resource, the higher level 16 checks to make sure it is below its "maximum allowed" level, thereby inherently having a capacity attribute (e.g. abstract; col. 3, line 66 to col. 4, line 19). Furthermore Hauser discloses that a lower level resource can demand more from a higher level such that it does not meet its "minimum guaranteed" value (e.g. abstract; col. 4, lines 20-40).

When these teachings are applied to both the service-model nodes as well as the server-model nodes, they teach the limitations of the aforementioned claims. It would have been obvious to one of ordinary skill in the art to combine the teaching of Hauser with Pace since Pace discloses that load balancing models are well known in the art, this would motivate one of ordinary skill in the art for other methods of hierarchical resource management, eventually finding Hauser and its use of Maximum allowed values, and minimum guaranteed values (e.g. abstract).

9. Referring to claim 6, Hauser in view of Pace disclose the invention substantively as described in claim 5. Pace furthermore discloses creating an allocation matrix that represents the optimized mapping (i.e. engagement table data structure) (p. 20, ¶ 308). Pace furthermore discloses creating an extended environment utilizing XML (Figure 2B, pp. 28-9, ¶ 409-4110. Hauser in view of Pace do not specifically disclose the service models and server models in XML and the allocation matrix in XML, however it is well known that XML can be utilized to create server models with its dynamic abilities to define attributes as seen in Pace. Therefore one of ordinary skill in the art would find it obvious to modify the teaching of Pace and Hauser to incorporate XML into the server models in order to provide a universal language which can easily be upgraded or replaced.

10. Claims 7, 10-15, and 17 recite obvious variations of the limitations of the claims above and are rejected for similar reasons as stated above.

Response to Arguments

11. Applicant's arguments filed September 9, 2005 have been fully considered but they are not persuasive.

12. In the remarks, Applicant argues, in substance, that (1) the combination of Hauser and Pace does not disclose generating an optimized mapping of service nodes based on the demand attributes of the first service model and capacity attributes of service nodes of the second service model, (2) the motivation is improper to combine Hauser and Pace.

13. As to point (1) Applicant's rationale is incorrect. As stated in the previous Office Action, the demand attributes of the first level would be the request for resources of the lower level, and the capacity attributes of the second layer would refer to the ability for the upper level (i.e. engineering) to service that particular request, based on the resource capacity available to the group. By this rationale, the claim limitations are met by the combination of Hauser and Pace and the rejection is maintained.

14. As to point (2) the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary

Art Unit: 2143

skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, It would have been obvious to one of ordinary skill in the art to combine the teaching of Hauser with Pace since Pace discloses that load balancing models are well known in the art, this would motivate one of ordinary skill in the art for other methods of resource management in order to combine into the system for more efficient optimization for various reasons, eventually finding Hauser and its use of Maximum allowed values, and minimum guaranteed values (e.g. abstract). By this rationale, the rejection is maintained.

Conclusion

15. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

16. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any

Art Unit: 2143

extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

17. Applicant has failed to seasonably challenge the Examiner's assertions of well known subject matter in the previous Office action(s) pursuant to the requirements set forth under MPEP §2144.03. A "seasonable challenge" is an explicit demand for evidence set forth by Applicant in the next response. Accordingly, the claim limitations the Examiner considered as "well known" in the first Office action, i.e. the use of XML as a language, are now established as admitted prior art of record for the course of the prosecution. See *In re Chevenard*, 139 F.2d 71, 60 USPQ 239 (CCPA 1943).

Again, it is the Examiner's position that Applicant has not yet submitted claims drawn to limitations, which define the operation and apparatus of Applicant's disclosed invention in manner, which distinguishes over the prior art. As it is Applicant's right to continue to claim as broadly as possible their invention. It is also the Examiner's right to continue to interpret the claim language as broadly as possible. It is the Examiner's position that the detailed functionality (*i.e. specifying the details of the attributes connecting the different service and server models*) that allows for Applicant's invention to overcome the prior art used in the rejection, fails to differentiate in detail how these features are unique. Thus, it is clear that Applicant must submit amendments to the

Art Unit: 2143

claims in order to distinguish over the prior art use in the rejection that discloses different features of Applicant's claim invention.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Joseph E. Avellino whose telephone number is (571) 272-3905. The examiner can normally be reached on Monday-Friday 7:00-4:00.

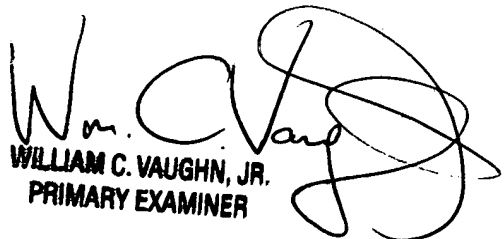
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David A. Wiley can be reached on (571) 272-3923. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



JEA

September 15, 2005



Wm. C. Vaughn, Jr.
WILLIAM C. VAUGHN, JR.
PRIMARY EXAMINER